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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,681	08/21/2006	Robert Yaw Gyamfi Andoh	P08829US00/MP	4066

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STITES & HARBISON PLLC
1199 NORTH FAIRFAX STREET
SUITE 900
ALEXANDRIA, VA 22314

EXAMINER	
MELLON, DAVID C	

ART UNIT	PAPER NUMBER
1797	

MAIL DATE	DELIVERY MODE
01/12/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/562,681	ANDOH ET AL.	
	Examiner	Art Unit	
	DAVID C. MELLON	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 December 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20051227;20060821*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following aspects must be shown or the feature(s) canceled from the claim(s):

- The circumferentially extending slot in the inner partition that makes up the aperture of claim 6
- The filter media of claims 13-15

No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Information Disclosure Statement

The listing of references in the Search Report is not considered to be an information disclosure statement (IDS) complying with 37 CFR 1.98. 37 CFR 1.98(a)(2) requires a legible copy of: (1) each foreign patent; (2) each publication or that portion which caused it to be listed; (3) for each cited pending U.S. application, the application specification including claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion, unless the cited pending U.S. application is stored in the Image File Wrapper (IFW) system; and (4) all other information, or that portion which caused it to be listed. In addition, each IDS must include a list of all patents, publications, applications, or other information submitted for consideration by the Office (see 37 CFR 1.98(a)(1) and (b)), and MPEP § 609.04(a), subsection I. states, "the list ... must be submitted on a separate paper." Therefore, the references cited in the Search Report have not been considered. Applicant is advised that the date of submission of any item of information or any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the IDS, including all "statement" requirements of 37 CFR 1.97(e). See MPEP § 609.05(a).

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states,

"the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

3. The disclosure is objected to because of the following informalities:

- The specification does not disclose section headings delineating each section of the disclosure from the previous section of the disclosure, creating an ambiguity of what is being discussed and where in the specification. Please see MPEP 608.01(a) for appropriate section headings in a patent application specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2, 4-7, 9-12, and 16-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Andoh et al. (WO 00/62888).

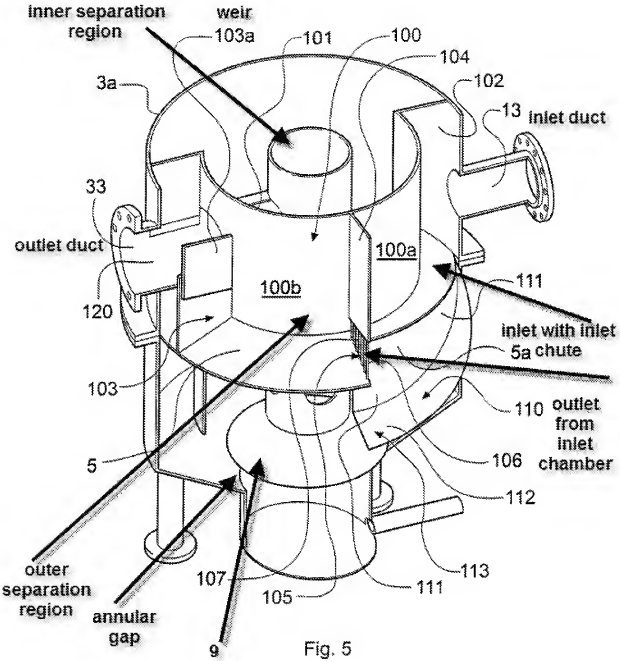

Fig. 5

Regarding claims 1-2, Andoh et al. discloses a hydrodynamic separator for separating material from a liquid (abstract) in figures 1, 4-6 comprising:

- A vessel (2) having a cylindrical outer wall (3)

- An inner partition (chamber – 31)
- An inlet (13) opening into the outer separation region (see annotated figure 5)
- An outlet (33) opening into the inner separation region (see annotated figure 5)
- A frustoconical base (9) which converges to a downward outlet opening (8a).

Regarding claims 4 and 5, Andoh et al. further discloses the inner separation region communicates with the outer separation region through at least one aperture formed in the inner partition (openings 11 or also interpreted as opening at 9) shown adjacent the lower end of the inner partition.

Regarding claim 6, Andoh et al. further discloses that the aperture comprises a circumferentially extending slot in the inner partition (openings 11).

Regarding claim 7, Andoh et al. further discloses the aperture comprises a circumferential gap between the inner partition and a wall closing the lower end of the inner partition (gap between 9 and wall 4).

Regarding claims 9-11, Andoh et al. further discloses the inner separation region is closed at its lower end by a downwards diverging, extending beyond the partition wall (9 – frustoconical base member, shown diverging downwards extending beyond partition 31, see also P12/L18-21 – "solid").

Regarding claim 12, Andoh et al. further discloses that the wall (9) terminates short of the frustoconical base of the vessel, creating a gap between the base and the wall (see annotated figure 5).

Regarding claims 16 and 17, Andoh et al. further discloses an outlet duct that extends from the liquid outlet through the outer wall of the vessel and is inline with the inlet duct which extends though the outer wall (see annotated figure 5, inlet and outlet 13 and 33 extending through vessel wall and inline with one another).

Regarding claim 18, Andoh et al. further discloses an inlet disposed below the inlet duct (see annotated figure 5) with an inlet port to discharge inlet flow into the vessel in a tangential direction to the cylindrical outer wall (inlet chute is wrapped around the cylindrical wall).

Regarding claim 19, Andoh et al. further discloses that the inlet and outlet ducts are disposed at an upper region of the vessel (see figure 5).

Regarding claim 20, Andoh et al. further discloses the inlet duct communicates with the inlet through a chamber, the chamber having a bypass means for allowing flow from the chamber to the inner separation means (flow goes through inlet chute past the outlet from the inlet chamber and over weir 103 into the outlet duct which feeds into the inner chamber, see also P15/L15-24).

Regarding claim 21, Andoh et al. further discloses the inlet port is provided in the wall of an inlet chute which extends downwardly from the chamber (P15/L15-24, screen 105 leads downward into the lower portion of the outer chamber).

Regarding claim 22, Andoh et al. further discloses the bypass means has a weir disposed between the chamber and the inner separation region with the overflow edge higher than the inlet port (weir 103a).

Regarding claims 23 and 24, Andoh et al. further discloses that the inner partition (31) is cylindrical (shown in annotated figure 5) and that the inner partition is coaxial with the outer wall (see figure 4).

6. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Lamb et al. (4,983,295).

Regarding claim 1, Lamb et al. discloses a separator using rotational movement of liquid to cause a sweeping effect (Abstract) in figures 1-2 comprising:

- A vessel (2) having a cylindrical outer wall (C3/L20-39)
- An inner partition (annular dip plate - 9)
- An inlet (7 – tangential inlet)
- An outlet (11 – outlet pipe)
- A frustoconical base (3) which converges to a downward outlet opening (6).

Regarding claim 3, Lamb et al. further discloses that the inner separation region is annular (region 19) and is defined at its inner periphery by a central cylindrical portion which is open at its lower end (13).

7. Claims 1, 3, and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Druffel (USP 4,298,465).

Regarding claim 1, Druffel discloses an improved self contained apparatus for separation of fluids (Abstract) in figures 1-3 comprising:

- A vessel (10) having a cylindrical outer wall (see wall of 10 in figure 1)
- An inner partition (64 - flow director)
- An inlet (36 – inlet passage)
- An outlet (18 – outlet port)
- A frustoconical base (see base of 10 terminating in drain valve 90 forms a frusto-conical shape) which converges to a downward outlet opening (90 – drain valve).

Regarding claim 3, Druffel further discloses a central cylindrical partition open at its lower end to provide access to the outlet opening (central chamber 86).

Regarding claims 13-15, Druffel further discloses a replaceable filter cartridge which substantially fills the inner separation region (filter cartridge 76).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andoh et al. (WO 00/62888) and in view of Galletti (USP 4,271,019).

Regarding claim 8, Andoh et al. discloses all of the claim limitations as set forth above. Andoh et al. does not explicitly set forth that there is a screen provided to each aperture.

Galletti discloses a filter unit with an outer casing with an inlet and discharge valve and a perforated chamber covered by a filter element (Abstract) in figure 1. The perforated apertures (7) are covered by a mesh filter element 9 (C3/L10-20).

Andoh et al. and Galletti are combinable because they are concerned with the same field of endeavor, namely that of fluid filtration.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the hydrodynamic fluid separator of Andoh et al. such that the

apertures (11) of Andoh et al. are covered by a filter screen as taught by Galletti for the purpose of keeping solids out of the final separation area prior to fluid discharge to improve separation quality.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID C. MELLON whose telephone number is (571)270-7074. The examiner can normally be reached on Monday through Thursday 7:00am-4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tony G Soohoo/
Primary Examiner, Art Unit 1797

/D. C. M./
Examiner, Art Unit 1797